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NOTES ON GEOGRAPHIC DISTRIBUTION

Amphibia, Anura, Leptodactylidae, *Leptodactylus paraensis* Heyer, 2005: Distribution extension, new state record, and geographic distribution map

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ABSTRACT: This note reports the presence of *Leptodactylus paraensis* at the municipality of Cláudia, state of Mato Grosso, central Brazil. This is the first recorded for this species in Mato Grosso.

The *Leptodactylus pentadactylus* species group is composed of 19 species of medium to large-sized frogs (Frost 2010). *Leptodactylus paraensis* Heyer 2005 is a large sized species that belongs to this group and is known only from its type-locality in Serra de Kukoinhokren (07°46' S, 51°57' W), state of Pará, Brazil (Heyer 2005). However, this species occurs also in Tapajós National Forest (A.P. Lima, pers. comm.), state of Pará, Brazil, approximately 650 km southeastern of type-locality. These localities are characterized as areas of closed canopy Amazonian rain forests (Heyer 2005). Here we report a new state record for *L. paraensis* extending its distribution over 500 km south in Amazonian forest in Brazil.

During field work from November to December 2009 and January 2010, we observed and collected several individuals of *L. paraensis* in native Amazonian forest with selective logging, in Continental Farm (two localities: module 1: 11°35'9.61" S, 55°16'10.86" W and module 2: 11°24'44.21" S, 55°19'25.20" W), and Iracema Farm (module 3: 11°38'20.40" S, 55° 5'25.43" W), all areas within the municipality of Cláudia, north of state of Mato Grosso, Brazil. The region constitutes a transitional area between the Amazonian moist forest and the Cerrado vegetation, forming the dry forest of Mato Grosso. The relief in the region is flat and gently dissected in tabular form, with elevations ranging from 400-500 m. The predominant soil in the area is Red-Yellow Dystrophic. The climate is tropical rainy with short period of drought, type Am (Köppen). The temperature annual average is 24 °C and rainfall around 2,000 mm/year. The rainy season occurs from December to February and the dry season from June to September.

Data were collected in December/2009 and, January and February/2010 in three modules with 32 plots (module 1 and 2 with 12 plots each, and module 3 with eight plots) systematically distributed over a 5 km2 grid formed by 5 km long trails (Figure 1; more information is available from http://ppbio.inpa. gov.br). Each plot was at least 1 km distant from any other. Plots were 250 m long and positioned to follow altitudinal contour lines, and thus minimized altitudinal and soil variation within each plot (Magnusson *et al.,* 2005). All plots were at least 600 m from the edge of the forest. We observed 22 individuals (two in module 1; seven in module 2 and 13 in module

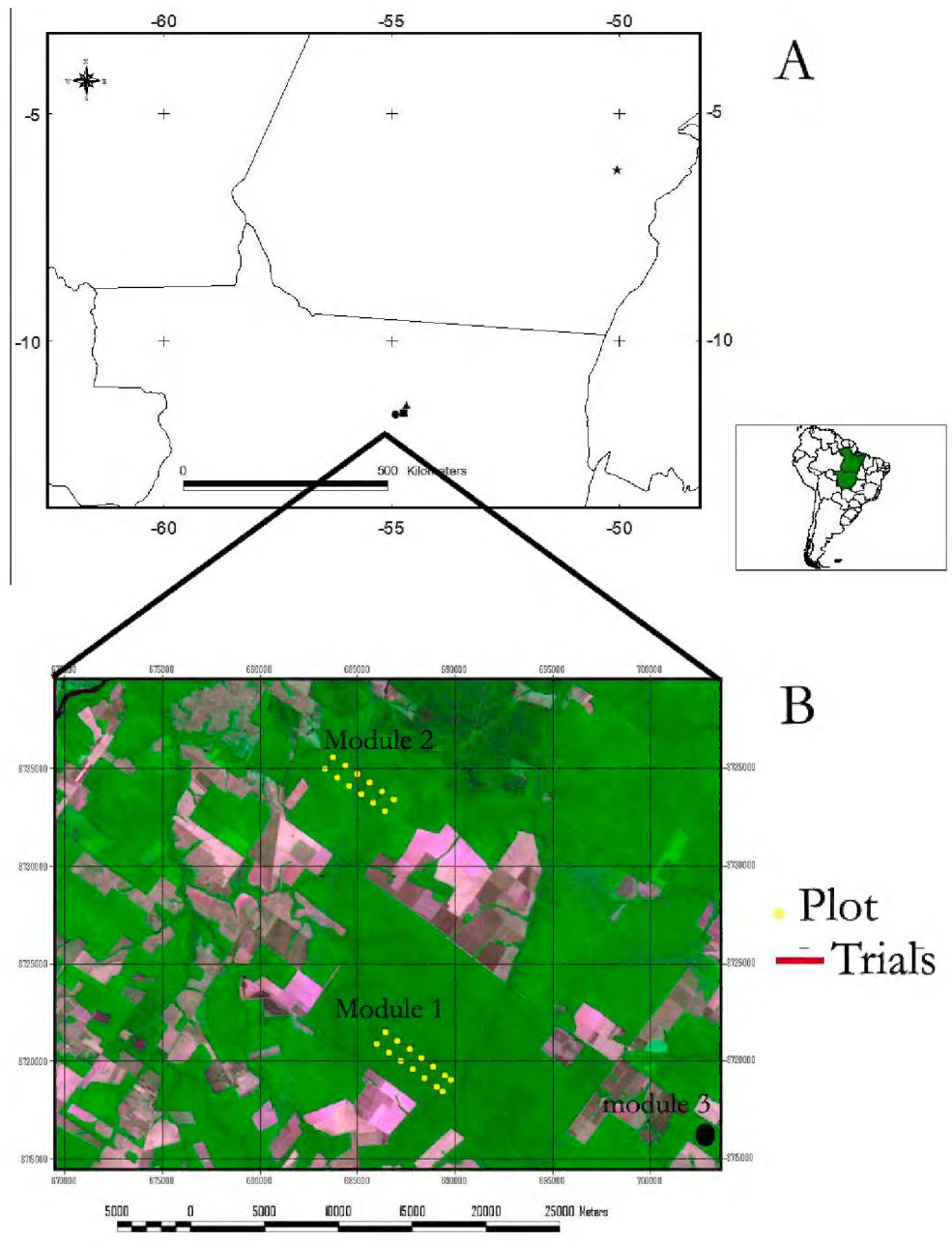

FIGURE 1. Known distribution of *Leptodactylus paraensis* in Brazil (type-locality – star) and the updated current distribution: (square and triangle to module 1 and 2 at Continental farm respectively; triangle: module circle: module 3 at Iracema Farm. All these new records are located at the Municipality of Cláudia, state of Mato Grosso, Brazil).

3), but only two were collected (males 148.1 and 142.0 mm snout-vent length, respectively) by MML and DJR (collection permit # 10174-1, Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis – IBAMA). The two collected specimens and the other individuals only observed were found near a burrow (depth approximately 15 cm) in native forest with selective logging (Figure 2). *Leptodactylus paraensis* is abundant in native forests (Heyer, 2005) and forests that have been subjected to selective logging in Brazilian Amazon (A.P. Lima, pers. comm.), including the studied areas, where it was found in 11 of the 32 plots sampled, with four plots recording more of three individuals. Voucher specimens were deposited in the Herpetological Collection of the Universidade Federal de Mato Grosso, Campus Universitário of Sinop, under numbers UFMT 051 and UFMT 052.

FIGURE 2. Adult male of *Leptodactylus paraensis* in front of burrow (A) in Iracema Farm, municipality of Cláudia, state of Mato Grosso, Brazil.

Specimens of *Leptodactylus paraensis* herein reported exhibit all diagnostic characteristics described by Heyer (2005) including: lip pattern often with 1 or 2 dark elongate triangular marks approaching or entering the lower eye. Dorsal pattern often uniform light or dark; or well developed dark interorbital band/chevron and 2 moderate to large equally intense dark chevrons, second chevron in sacral region, chevrons confluent or not; or more than 2 dark, broad transverse bands of equal intensity in addition to interorbital band, confluent laterally or not. Belly pattern often mottled or uniform dark or dark with small light vermiculations. Posterior thigh pattern usually dark with small distinct light vermiculations or spots. Snout nearly rounded in dorsal and profile views, ventral region smooth, small tubercles in the dorsum, chest finely mottled, and anterior belly with large and light vermiculations on a slightly darker background, posterior belly with faint but distinct labyrinthine pattern.

Leptodactylus paraensis (Figure 3A) can be confused with *L. labyrinthicus* (Figure 3B) and *L. pentadactylus* (Figure 3C) in the surveyed region due to their morphological similarities. Accordingly to Heyer (2005), there is no consistent morphological feature that completely distinguishes *L. paraensis* from *L. labyrinthicus.* Nevertheless, the vocalization and the ecological requirements definitely differentiate them; *L. labyrinthicus* occurs in open formation habitats, while *L. paraensis* occurs in closed forest formations. Data of

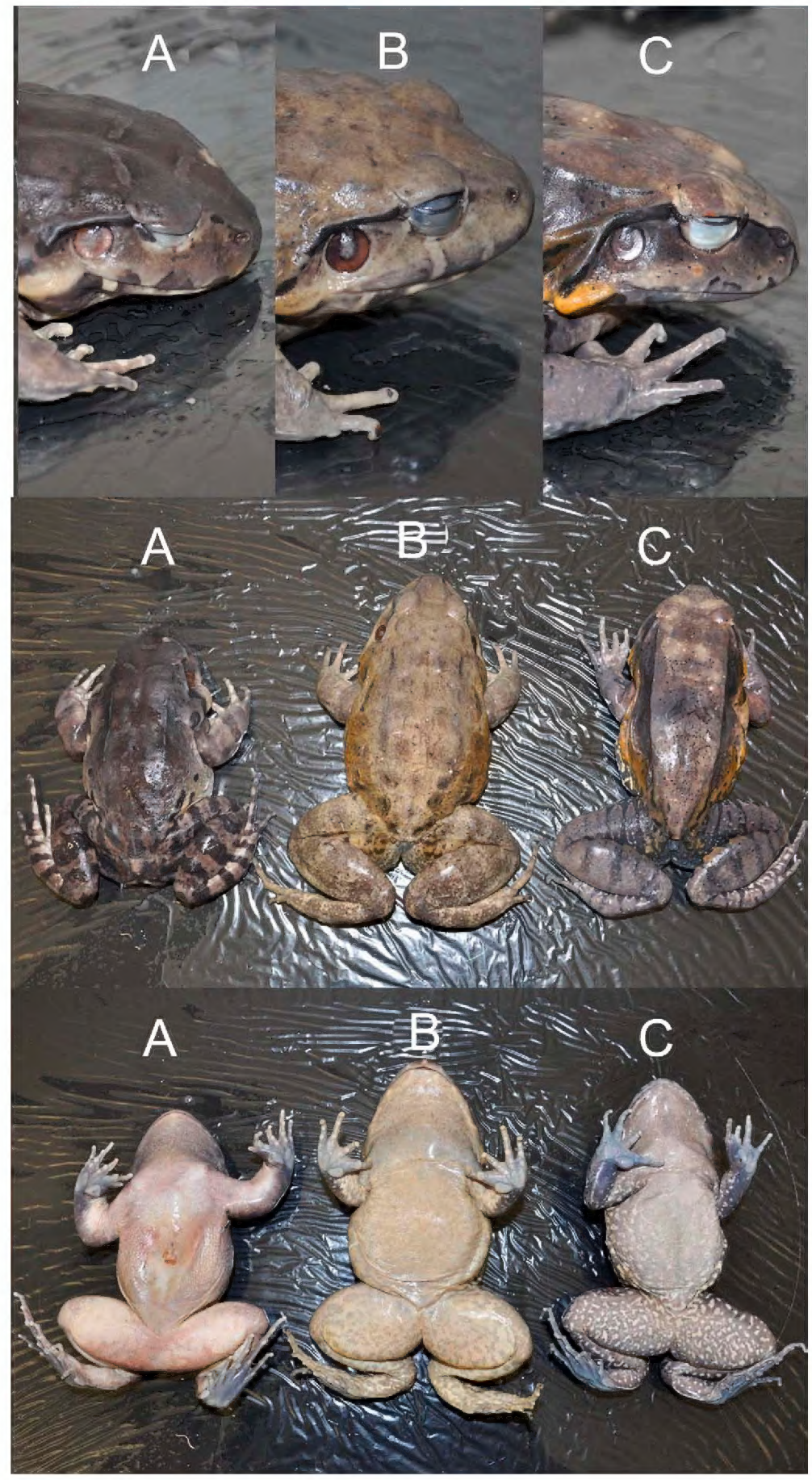

FIGURE 3. Ventral, dorsal and head view of *Leptodactylus pentadactylus* species group. A) *L. paraensis*, B) *L. labyrinthicus*, C) *L. pentadactylus*. Photo A, B and C by D.J. Rodrigues

habitat usage for *L. paraensis* indicate that the species is limited to primary rain forests as *L. pentadactylus* (Heyer, 2005; Lima *et al.*, 2006). A difference found in the present study is that *L. pentadactylus* was found always near to stream as showed by Hero and Galatti (1990), Lima *et al.* (2006); Menin *et al.* (2009), while *L. paraensis* was found in plateau, distant at least 500 m from the nearest stream. Morphological characters also distinguish *L. paraensis* from *L. pentadactylus* such as the extension of their dorsolateral folds. In *L. paraensis* these folds are interrupted and extend no further from the eye; dorsolateral folds of *L. pentadactylus* are either continuous or, if interrupted, extend beyond the sacrum (Hero and Galatti, 1990; Lima *et al.* 2006). *Leptodactylus pentadactylus* has a continuous line extending from eyes to tip of snout while *L. paraensis* present only part of this line (Hero and Galatti, 1990; Heyer, 2005).

Leptodactylus paraensis is classified as Least Concern in the IUCN Red List, but the biology and the distribution of this species is little-known, as the majority of newly

described species for which more information is still needed (IUCN 2010). The record of *L. paraensis* from municipality of Cláudia (modules 1, 2 and 3, Figure 1) represents the first record of this species in the state of Mato Grosso, expanding its distribution *ca.* 550 km south-southwest of type locality (Figure 1).

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